Four conjectures on the numbers p±1 concatenated with 1 where p primes of the form 30k+11

Abstract. In this paper I state the following four conjectures. Let q be the number obtained concatenating to the right with 1 the numbers p – 1, where p primes of the form 30*k + 11; then: (I) there exist an infinity of primes q; (II) there exist an infinity of semiprimes q = q1*q2, such that q2 + q1 - 1 is prime. Let q be the number obtained concatenating to the right with 1 the numbers p + 1, where p primes of the form 30*k + 11; then: (III) there exist an infinity of primes q; (IV) there exist an infinity of semiprimes q = q1*q2, such that q2 – q1 + 1 is prime.

Conjecture 1:

There exist an infinity of primes q obtained concatenating to the right with 1 the numbers p – 1, where p primes of the form 30*k + 11.

The sequence of primes q:

: 101, 401, 701, 1301, 1901, 2801, 4001, 7001, 10301, 10601, 11801, 13001, 15101, 16001, 18701, 19001, 19301, 21101, 21401, 23801, 25301 (...)
(...)

Conjecture 2:

There exist an infinity of semiprimes q1*q2 obtained concatenating to the right with 1 the numbers p – 1, where p primes of the form 30*k + 11, such that q2 + q1 - 1 is prime.

The sequence of semiprimes q1*q2:

: 2501 = 41*61, where 61 + 41 – 1 = 101, prime;
: 3101 = 7*443, where 443 + 7 – 1 = 449, prime;
: 4601 = 43*107, where 107 + 43 – 1 = 149, prime;
: 7601 = 11*691, where 691 + 1 – 1 = 701, prime;
: 8201 = 59*139, where 139 + 59 – 1 = 197, prime;
: 9701 = 89*109, where 109 + 89 – 1 = 197, prime;
: 17201 = 103*167, where 167 + 103 - 1 = 269, prime;
: 18101 = 23*787, where 787 + 23 - 1 = 809, prime;
: 23501 = 71*331, where 331 + 71 - 1 = 401, prime;
: 24401 = 13*1877, where 331 + 71 - 1 = 1889, prime;
(...)
: 9617567101 = 2521*3814981, where 3814981 + 2521 - 1 = 3817501, prime;
(...)

Conjecture 3:

There exist an infinity of primes q obtained concatenating to the right with 1 the numbers p + 1, where p primes of the form 30*k + 11.

The sequence of primes q:

: 421, 1021, 1321, 2521, 3121, 4021, 4621, 6421, 7621, 8221, 8821, 9421, 9721, 10321, 11821, 14821, 15121, 18121, 21121, 24121, 24421, 25321 (...)

Conjecture 4:

There exist an infinity of semiprimes q1*q2 obtained concatenating to the right with 1 the numbers p + 1, where p primes of the form 30*k + 11, such that q2 - q1 + 1 is prime.

The sequence of semiprimes q1*q2:

: 721 = 7*103, where 103 - 7 + 1 = 97, prime;
: 1921 = 17*113, where 113 - 17 + 1 = 97, prime;
: 9121 = 7*1303, where 1303 - 7 + 1 = 1297, prime;
: 10921 = 67*163, where 163 - 67 + 1 = 97, prime;
: 11521 = 41*281, where 281 - 41 + 1 = 241, prime;
: 13021 = 29*449, where 449 - 29 + 1 = 421, prime;
: 16021 = 37*433, where 433 - 37 + 1 = 397, prime;
: 17221 = 17*1013, where 1013 - 17 + 1 = 997, prime;
: 18721 = 97*193, where 193 - 97 + 1 = 7, prime;
: 20821 = 47*443, where 443 - 47 + 1 = 397, prime;
: 21421 = 31*691, where 691 - 31 + 1 = 631, prime;
(...)
: 9617544121 = 10561*902971, where 902971 – 10651 + 1 = 892321, prime;
(...)

Note the interesting fact that 1000921, 100000921, 1000000000921, 1000000000000921, 1000000000000000000000921, 100000000000000000000000000000000000921, 10000000000000000000000000000000000000921 (...) are primes and 1921, 10921, 100921, 10000921, 10000000921, 100000000921, 1000000000000000000921, 100000000000000000000921, 1000000000000000000000000000000000000921, 100000000000000000000000000000000000000921, 10000000000000000000000000000000000000000000921, 100000000000000000000000000000000000000000000921, 100000000000000000000000000000000000000000000000921 (...) are semiprimes of the form (10*k + 3)*(10*h + 7).